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(*po'u akau nui*). Linton describes also hammer stones, rubbing stones used for dressing wood, and the use of coral and pebbles for smoothing and polishing (20).

These blocks were frequently carved with high relief designs representing human figures and geometric designs. (See fig. 13.) Large stone carving in the round was practiced in making the stone images (*tiki ke'a*) of tribal gods, which were carved in exactly the same conventions as were the wood figures. In stonework as in woodwork, the chief instrument used was the adz, serving in this case, of course, more for wearing away and chipping than for cutting.

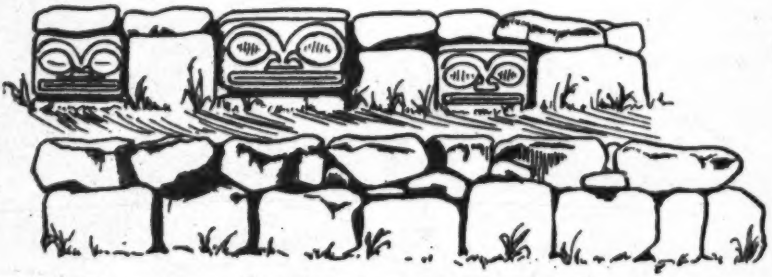

FIGURE 13.—A temple platform.

One of the chants and rites for the sacred first-born boy mentions *fatu*, sacred blocks of hard stone, that were put in the special structure erected for the rite. From these a piece was taken to make the new adz for the boy. This new adz was probably the *toki mana*. In the same chant is mentioned the use of wet sand for rubbing and polishing. Sharpening stones are to be seen everywhere today, blocks of smooth volcanic rock showing the worn spots and grooves made by grinding and sharpening adzes.

Gouges (*toki-koma, pakoma*—8) were made of stone as were also adzes. Linton describes the use of stone chisels hafted in wood, and casuarina mallets.

The rocks of great size that were used in constructing some platforms, and smaller stones too heavy for a man to carry were transported by means of a contrivance called *fata'a*, made of poles and logs, enabling a great number of men to lend their strength. The *fata'a* used in carrying great quantities of hogs to the betrothal feast was described as a great litter made by lashing cross-pieces on two long poles, which the men carried on their shoulders. On Ua Huka, a photograph was taken of natives carrying a large stone slung by a rope from a group of radiating poles resting one on top of the other (fig. 14.) At Pua Ma'u on Hiva Oa, a

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native described to me the way in which on one occasion, he had helped carry a stone weighing several tons to which were lashed a number of large poles radiating in several directions.

HOUSE-BUILDING

The occasion of building of a new house was usually in honor of a first-born son. The construction of the platform (*paepae*) and the house (*fa'e*) itself was regarded as one enterprise, though a new house was frequently placed on an old platform. The labor was characterized as *hana me'ie* (common work) because the sleeping house was not *tapu;* hence the enterprise required no sacrifice. Although the house itself was not sacred yet the work on it, like all labor, was *tapu,* and required consecration of the workers. All of the work was done by men except the making of the coconut mats used for thatching, and of the pandanus mats used on the bed space, this being women's work. Before beginning the work, all the

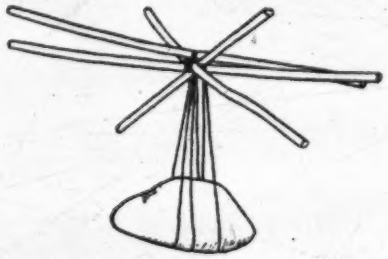

FIGURE 14.—Method of carrying heavy stones.

men who were to take part in it bathed in the sea in order to free themselves from contaminating influences.

The man who desired to have a new house erected employed the house-building *tuhuna* (*tuhuna hakatu fa'e, tuhuna hakatu paepae*). The assistants of this *tuhuna* were called *ta akau* (*ta,* strike; *akau,* wood) or *te tau poi ma te kaokao* (the people by-the-side). A feast was prepared and served, all who came being expected to bring stones. After the feast the *tuhuna* took charge of the work, those who had brought the stones working under his direction. The master builder laid the first stone, indicating the true line, and directed the operation. The two stones at each front corner of the platform were laid by the master *tuhuna* himself in the afternoon of the first day. Then a ceremonial priest (*tuhuna pu'e* or *tuhuna o'ono*) intoned the *pu'e* chant, ending that day's labor, the actual building of the platform being done the following day. A rainfall during the night was a sign that both the owner of the house and the *tuhuna* who was building it would die.

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241 The breadfruit trees were climbed by the men and the fruits were plucked with a net called *paŋiko* (*paŋiko*) (fig. 19, *a*), and deposited in larger nets hung in the branches, called *ko'oka* (fig. 19, *b*), or they were dropped on piles of leaves or weeds beneath the tree, so as not to be [802] bruised. They were gathered up and counted in bunches of fours called *pona* (literally, knot). Thus a *tahi pona* was one bunch of four, a *iva pona*, nine bunches, or thirty-six breadfruit. The whole system of counting breadfruit differed from the normal count. The fruits were carried [482] to the vicinity of the pits, slung on each end of shoulder poles (*amo*). It is said that one man could carry sixty breadfruit in this way. When a heavy load was carried the shoulder was protected by means of a wooden shoulder rest (*poka'a*). On Ua Huka, each family gathered and preserved 4000 (one *mano*) or 8000 (two *mano*) fruits at the chief harvest (*ehua*) and from a few hundred to one *mano* at the second (*mata'iki*) (Lawson MS.[12]). The work of preparing the paste and storing it in the pits is described under Preparation of Food.

As was usual in all tribal labor, the harvesters were fed by the chief. Following a good harvest there was always celebrated the *ko'ina tapavau* (See Festivals). Under Rites is describes the ceremony called *Vai titi*, the object of which was to break a drought and thereby bring plenty of breadfruit to relieve famine, which was sometimes very severe.

241 Taro (*ta'o*) was planted either in small patches bordered with stones, along the edges of streams, in larger patches of leveled terraces in valley 312 bottoms, the terraces running like steps at right angles to the direction of the fall of the water, or on terraces built up above stream banks, running parallel with the stream bed. The accompanying plan (fig. 20) and the photographs (Plate 1, *D*) of an ancient terrace studied on Ua Pou show that the natives were well acquainted with the methods of irrigation and terraced agriculture. Concerning the work of erection of terraces, preparation of plantations, and planting of taro in ancient times I have no information. It is certain, in view of the customs connected with all other labor, that these had associated with them *tapu* and ritual of the same kind.

Figure 20 shows the plan of a terraced platform (*papua ta'o*) at Haka he Tau, Ua Pou, about two miles up the valley from the landing. As my only equipment in making the map was a fishing cord marked off in five-yard intervals, it may be understood that the map can not be regarded as accurate in measurements. But although the dimensions are faulty, the

[12] The Lawson Manuscript, written in the Marquesas by Thomas C. Lawson in 1862 and the years immediately following and sent to Mr. W. D. Alexander of Hawaii, has come into the possession of the Bishop Museum when this paper was in the latter stages of preparation. It contains much valuable information regarding deities which will be published subsequently. It also contains much false information—free translations, interpretations, and so on, that are very wide of the mark.

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inserted. The juices from the flesh that dripped down into the bowl were mixed with taro leaves and eaten. It is said that sometimes a piece of meat would be kept in the hole for several months. This seems impossible unless the flesh were dried, but I have never heard of the drying. One of the chief purposes of this peculiar utensil was to serve as a protection against theft: a man coming to steal the meat would lift up the cover, look in the bowl and find it empty. The *hue po'o* was sometimes carried hung from the neck. This method of carrying it was explained as being due to the necessity of keeping off the flies with both hands.

TATTOOING FESTIVALS

At Atu Ona when the tattooing of a boy was completed and he was healed, his father announced that he would give a *ko'ina tuhi tiki* on a certain day. The lad in whose honor the feast was given was called *opou*. On the given day all the people gathered at the feast place. The chants called *pu'e* and *nato* were chanted (See Sacred Chants), two large drums (*pahu anana*) and three small ones (*tutu*) accompanying them. At this feast, all of the *ka'ioi* (see Tattooing) who had been decorated gratis in the tattooing house of the boy (*opou*) for whom the fête was given also showed off their new designs.

Another informant, at Pua Ma'u said that three fêtes were given in honor of a boy after his tattooing had been completed: the first, the *ko'ina tuhi tiki;* the second, the *ko'ina pou fau* (*pou*, post; *fau, Hibiscus tiliaceus*); and the last, the *ko'ina toe haka*. Brief descriptions of the first and third of these are given below; but concerning the second nothing is known.

According to this Pua Ma'u informant, who had himself been a *ka'ioi* in the tattooing rites, the boy for whom the tattooing had been undertaken and for whom the feast was given never danced. At his first fête, the *ko'ina tuhi tiki*, the boy showed off his new tattooing by marching around the dance place accompanied by the *ka'ioi* who had been tattooed with him. He was anointed with coconut oil, saffron, and sweet-scented juices (*huhe*). This made his skin light yellow and brilliant, causing the designs to show to great advantage. The youth wore only a tortoise-shell headdress and a loin cloth. The type of chant called *putu* was intoned in honor of the youth who had been tattooed (see Chants), being accompanied by the hand-clapping of the *ka-ioi* standing on the dance area, while two men and two women danced. Neither the *ka'ioi* nor the youth for whom the feast was given danced. At this festival the chants called *uta* and *pu'e* were also sung. (See Chants.) In Pua Ma'u valley, I was told that the *ko'ina tuhi ti'i*, or *ko'ina pati'i* (*pati'i*, nick-

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IMPLEMENTS FOR COLLECTING AND PREPARING BREADFRUIT

413 245 Breadfruit is still the Marquesan staple, and utensils for collecting and preparing it form part of the equipment of every family. These utensils may be divided into two classes, those used in collecting and transporting the fruit, and those used in preparing it for food.

NETS AND CARRYING STICKS

245 286 Breadfruit nets are of two sorts, small picking nets and large carrying nets. The picking net consists of shaft and head.

413 [824] The shaft is a long straight pole of some light wood, usually fau. The head consists of a net woven on a forked stick, one foot to 18 inches long. The fork is tied to the shaft and is bent backward so that it stands almost at right angles to the shaft. The wood of a tough vine is usually used for the fork, the angle being given by bending the wood while green and tying the prongs back to the shaft until the wood dries. Within the fork, which is six to eight inches long, a small net is woven having a depth of eight inches to one foot. Commercial string is used for these nets, replacing the sennit of former times. The mesh of the net is large and the knot is like an European square knot. In use, the picker is lifted until the fruit is enclosed in the net; the stem is then caught in the angle of the fork and broken by a slight twist. The fruit are usually picked one at a time and transferred from the picking net to the carrying net, which is hung in the trees near the picker. The average carrying net is about 18 inches in diameter and three feet deep. This net (Pl. LVII, *A*) is also usually made of commercial cord, although sennit is still used. The top of the net is held open by a hoop made from a sapling about three-fourths of an inch in diameter, which has been steamed in an earth oven until it is pliable, bent until the ends overlap, and the juncture covered with many laps of cord. The net is suspended from the carrying stick by three ropes of twisted bark, woven together in the center to form a loop, the ends of ropes being tied to the hoop at equal intervals. The bottom of the net is finished with a ring about two inches in diameter made from two strands of sennit. About this ring the bottom strands of the net are passed in closely spaced double half hitches.

●482 Carrying sticks (for transporting the fruit to the house) are simply poles one and a half to two inches in diameter cut from the nearest clump of fau. In ancient times, more carefully made carrying sticks are said to have been used; smoothly finished, and with notches at either end protected by a raised flange. No specimens were seen, and it is probable that even then ordinary carrying sticks were nothing more than saplings.

IMPLEMENTS FOR PREPARING BREADFRUIT

252 413 The implements used in preparing breadfruit vary according to whether the fruit is to be made into *ma* and stored, or is to be eaten at once. In *ma* making large numbers of the fruit are gathered and piled up to ripen. The ripening is hastened by piercing each fruit at the stem end with a pointed stick (Pl. LVII, *D*) or with a piece of crushed bamboo. When the bamboo is used, it is broken off at the surface each time, leaving a fragment of the bamboo in the fruit.

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all four sides. Square utensils appear to have been unknown, those which were not round being oval or oblong. In most of the oblong specimens the sides are more or less convex, the difference between them and the oval forms lying in the degree of flattening at the ends.

Two specimens of a very curious oblong type not observed elsewhere were seen in the Valley of Hanapaoa, Hiva Oa. These utensils were flat bottomed, with shallowly convex sides and ends which met in well marked angles. The whole form bore a remarkable resemblance to the type of food dish commonest among the Haida of the Northwest Coast of North America. The utensils were evidently of recent manufacture and the natives could give no name for the type and were uncertain whether it was ancient.

Oblong trays and dishes appear to have been in rather common use in ancient times, although few specimens have survived. Those seen were provided with low vertical sides and almost flat interior bottoms. The exterior was smoothly rounded. The troughs for beating *popoi* are really very large oblong trays (p. 352).

Several well marked types of oval dishes may be distinguished, of which the long narrow flat ended containers, called *toto*, are the most important. Except for the proportions of the different parts and the inward curve of the sides toward the rim, the form of these utensils is almost identical with that of the underbodies of the large built up canoes. The ends of the vessel are straight, the sides convex, so that the greatest width is in the center. The sides also show a vertical convexity, and the maximum width of the utensil both internally and externally is about midway between the bottom and rim. (See Pl. LX, *B*.)

Most of the *toto* are large. Bowls long enough for a man to lie in are remembered by the older natives. The smallest example seen was 18 inches long, with a maximum central width of 8⅝ inches. Usually no handles were used with this type, but this small specimen was provided with a handle consisting of two loops of sennit passed through holes bored vertically in the corners and tied together above the center.

Toto are said to have been used principally for the transportation of prepared food at the time of feasts, and according to natives their shape was designed to make them easier to carry upon the shoulders. They were carried transversely, resting upon both shoulders and the nape of the neck, the bearer's head being bowed upon his chest.

Small oval *kava* bowls, with nearly parallel sides and rounded or pointed ends appear to have been fairly common and probably constitute a distinct type. Some of these bowls were provided with a suspension loop or handle attached to the center of one side. (See Pl. LX, *A*, 2-3.)